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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,536	01/18/2007	Richard Morisson	4590-525	3208
33308	7590	10/12/2007	EXAMINER	
LOWE HAUPTMAN & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314			JEANGLAUME, JEAN BRUNER	
ART UNIT		PAPER NUMBER		
		2819		
MAIL DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/580,536	MORISSON, RICHARD
	<b>Examiner</b>	<b>Art Unit</b>
	Jean B. Jeanglaude	2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on RCE filed on 9-18-07.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 5-8 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 5 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki et al. (US Patent Number 5,396,131) in view of Masenas et al. (US Patent Number 6,603,416).

2. Regarding claims 5, 6, Miki et al. discloses an analogue-to-digital converter (figs. 1 – 4) having differential inputs and a parallel structure (col. 1, lines 8 – 13, figs. 1 – 4), comprising at least one network of N series resistors with value  $r$  (col. 6, lines 8 – 30, fig. 2, block 5, fig. 3, resistors 111-115) and one network of N comparators (col. 6, lines 8 – 17, fig. 2, blocks 61-6n) in which wherein: the series resistor network receives a reference voltage (fig. 3, blocks 101, 102) and is traversed by a fixed current  $I_0$  (col. 6, lines 18 – 30) the row  $i$ ,  $i$  varying from 1 to  $N$ , comparator (fig. 4, block 61) includes: a dual differential amplifier with four inputs (col. 7, line 54 to col. 8, line 55; fig. 4 block 400)[inputs VA1, VA2, VR1a and VRb1], two inputs receiving a differential voltage to be converted (col. 6, line 41 to col. 7, line 53) [Va1, VA2, fig. 4], a third input being connected to a row  $i$  resistor of the network (col. 6, lines 46 – 50) [VR1a, fig. 4], and a fourth input being connected to an  $N-i$  row resistor of the network (VR1b, fig. 4; col. 6, lines 46 – 50), the dual differential amplifier supplying a voltage representing a

difference of the form and the comparator switching in one direction or the other depending on the level of the voltage and on the row i of the comparator when said difference changes sign, characterized (col. 6, line 58 to col. 7, line 52; figs. 12-13; figs. 1 – 4). Miki et al. does not specifically disclose an analog-to-digital converter in which the resistor network is supplied by a variable reference voltage originating from a servoloop circuit which locks the voltage level of the middle of the resistor network at a voltage equal to the common mode voltage ( $V_{SVSN}/2$ ) of the differential voltage to be converted. However, Masenas et al., in a related field, discloses an analog to digital converter (fig. 3) wherein the network resistor (70) is supplied by a variable reference voltage that originates from a servoloop circuit which locks the voltage level of the middle of the resistor network at a voltage equal to the common mode voltage ( $V_{SVSN}/2$ ) of the differential voltage to be converted (fig. 3; paragraph bridging col. 7 and 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Miki et al.' system with that of Masenas et al. in order to calibrate an analog to digital converter.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miki et al. (US Patent Number 5,396,131) in view of Masenas et al. (US Patent Number

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6,603,416) as applied to claim 5 above, and further in view of Kouno et al. (US Patent Number 5,539,406).

5. Regarding claims 7, 8, Miki et al. discloses all the limitations as discussed above except the converter wherein the dual differential amplifier with four inputs is composed of two single differential amplifiers, the outputs of which are connected in parallel, each of them receiving, on the one hand, one of the two input differential voltages and, on the other hand, one of the two voltages originating from the resistor network. However, Kouno et al., in a related field, discloses a converter (fig. 1) wherein the dual differential amplifier with four inputs is composed of two single differential amplifiers, the outputs of which are connected in parallel, each of them receiving, on the one hand, one of the two input differential voltages and, on the other hand, one of the two voltages originating from the resistor network (col. 2, lines 35 – 41; col. 28, lines 24 – 57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Miki et al.'s system and Masenas et al. with that of Kouno et al. in order to realize high speed operation and low power consumption.

#### Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (See PTO-892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Jeanglaude whose telephone number is 571-272-1804. The examiner can normally be reached on Monday - Friday 7:30 A. M. - 5:00 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rexford Barnie can be reached on 571-272-7492. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jean Bruner Jeanglaude  
Primary Examiner  
September 27, 2007